

VINH KHANH BUI

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RESEARCH INTERESTS

Symmetry of Parameter Space, Training Dynamics, Stochastic Process, Diffusion Models, Convex Optimization, Geometric DeepLearning

EDUCATION

Bachelor's Degree at Ho Chi Minh University of Technology, VNU-HCM August 2020 - May 2024
Department of Computer Science and Engineering, CGPA: 8.42/10.00

High School Diploma at Le Hong Phong High School for The Gifted August 2017 - May 2020
Specialization: Mathematics, CGPA: 9.8/10.0

RESEARCH PUBLICATIONS

Viet-Hoang Tran*, **Vinh Khanh Bui***, Tan Lai Ngoc, Nam Nguyen, Tuan Quang Dam, Tan Minh Nguyen
"Conservation Laws for Modern Neural Architectures", Proceedings of the 43rd International Conference on
Machine Learning (ICML 2026). [\[Co-first Author\]](#) · [\[Paper\]](#) · [\[ICML 2026 Spotlight\]](#) May 2026

Viet-Hoang Tran, **Khanh Vinh Bui**, Van-Hoan Trinh, Tan Lai Ngoc, Tan Minh Nguyen "Functional Equivalence
in Attention: A Comprehensive Study with Applications to Linear Mode Connectivity", Proceedings of the 43rd
International Conference on Machine Learning (ICML 2026). [\[Second Author\]](#) · [\[Paper\]](#) May 2026

Viet-Hoang Tran*, Van-Hoan Trinh*, **Khanh Vinh Bui***, Tan Minh Nguyen "On Linear Mode Connectivity of
Mixture-of-Experts Architectures", Proceedings of the 39th Conference on Neural Information Processing Systems
(NeurIPS 2025). [\[Co-first Author\]](#) · [\[Paper\]](#) · [\[NeurIPS 2025 Oral\]](#) September 2025

Le Hong Trang, **Bui Khanh Vinh**, Phan Thanh An, Pham Tran Vu "A Fusion Model for Precipitation Nowcast-
ing from Radar and Satellite Images", Proceedings of the 18th International Conference on Multi-disciplinary
Trends in Artificial Intelligence (MIWAI 2025). [\[Second Author\]](#) · [\[Paper\]](#) September 2025

EXPERIENCES

Under Graduate Research Assistant August 2023 - May 2025
Institute of Mathematical and Computational Sciences, Ho Chi Minh University of Technology, VNU-HCM

- Advisor: [Le Hong Trang](#)
- Developed deep learning models for rainfall prediction in Southern Vietnam, leveraging data and support from the Nha Be Hydrometeorological Station

Teacher Assistant August 2023 - Now
Ho Chi Minh University of Technology, VNU-HCM

- Subject: Introduction to Computing, Programming Fundamentals, Data Structure And Algorithms, Natural Language Processing.
- Training students to participate in Vietnam Mathematical Olympiad for University Students.

AI Researcher Novemeber 2025 - Now
Center for AI Research, VinUniversity

- Advisor: [Tan M. Nguyen](#)
- Conducted research on the training dynamics and geometric structure of modern architectures, including multi-head attention, mixture-of-experts, and transformers

ACADEMIC ACHIVEMENT

First Prize (First-ranked) - Vietnam Mathematical Olympiad for University Students Subject: Linear Algebra, Division A	April 2024
First Prize - Vietnam Mathematical Olympiad for University Students Subject: Mathematical Analysis, Division A	April 2024
First Prize - Vietnam Mathematical Olympiad for University Students Subject: Mathematical Analysis, Division A	April 2023
Third Prize - International Collegiate Programming Contest (ICPC) Asia Ho Chi Minh City ICPC Regional, Cowinner	April 2022
Second Prize - Vietnam Olympiad in Informatics for University Students Division B	April 2022
Second Prize - Vietnam Mathematical Olympiad for High School Students Top 48 candidates participating in Team Selection Test (TST)	April 2020
Second Prize - Vietnam Mathematical Olympiad for High School Students Top 48 candidates participating in Team Selection Test (TST)	April 2019

EXTRA-CIRRICULAR

- Camp participant of Summer School Series on Mathematical Statistics and Machine Learning July 2024
- Camp participant of Mathematics Summer Camp for university students (Machine Learning) June 2024
- Head mentor of the Titan Education's Mathematics Winter Camp December 2023
- Camp participant of Mathematics Summer Camp for university students (Linear Algebra) June 2023
- Head mentor of the Titan Education's Mathematics Summer Camp July 2022
- Mentor of the Titan Education's Mathematics Summer Camp and Winter Camp 2021
- Camp participant of Math and Science Summer Program (MASSP) summer camp June-2021
- Mentor of the Titan Education's Mathematics Summer Camp and Winter Camp. 2020